

**IN THE CLAIMS:**

Amend claims 1-5, 7-11, and 13 as shown in the following listing of the claims on pages 5-9.

1. (Currently Amended) A video-on-demand system which is comprised of a supervisor processor, and a co-processor, which are intercoupled via a bus;

said supervisor processor having a supervisor memory and said co-processor having a co-processor memory;

a supervisor control program, in said supervisor memory, which includes - a) a first means for directing said supervisor processor to transfer ~~transferring~~ a group of video data packets from an externally stored complete video into said supervisor memory, b) a second means for directing said supervisor processor to build ~~building~~ in said supervisor memory, a respective subgroup of internet protocol headers for each video data packet in said group, and c) a third means for directing said supervisor processor to construct and send to ~~constructing in~~ said co-processor memory, a transmission control list which indicates how each video data packet in said group and its respective subgroup of internet protocol headers can be accessed from said supervisor memory; and,

a co-processor control program, in said co-processor memory, which includes - a) a fourth means for directing said co-processor to partition ~~partitioning~~ into pieces, each video data packet and its respective subgroup of internet protocol headers as identified by said transmission control list, and b) a fifth means for directing said co-processor to send ~~sending~~ each piece, with an additional header, to an output port during spaced apart time slots.

2. (Currently Amended) A video-on-demand system according to claim 1 wherein said first means further directs said supervisor processor to build ~~for building~~ builds multiple variables, into ~~for~~ each respective subgroup of internet protocol headers, that change with each subgroup.

3. (Currently Amended) A video-on-demand system according to claim 1 wherein said first means further directs said supervisor processor to build ~~for building~~ builds a variable into ~~for~~ each respective subgroup of internet protocol headers, that changes as a function of the corresponding video data packet.

4. (Currently Amended) A video-on-demand system according to claim 1 wherein said third means further directs said supervisor processor to construct ~~for constructing-constructs~~ in said list, a respective pointer and a respective byte count and a respective set of flags for each video data packet in said group and for each subgroup of internet protocol headers.

5. (Currently Amended) A video-on-demand system according to claim 1 wherein said third means further directs said supervisor processor to construct ~~for constructing-constructs~~ in said list, just one pointer for every video data packet in said group, and just one other pointer for every subgroup of internet protocol headers, and a respective set of flags for each video data packet in said group and for each subgroup of internet protocol headers.

6. (Original) A video-on-demand system according to claim 1 which further includes a host processor that is coupled via another bus to said supervisor processor, and wherein said complete video is stored in a host memory for said host processor.

7. (Currently Amended) A video-on-demand system according to claim 1 wherein said first means further directs said supervisor processor to receive for transferring ~~receives~~ a series of requests from said co-processor, and in response to each of said requests, transfer ~~transfers~~ a different group of said video data packets from said complete video into said supervisor memory.

8. (Currently Amended) A video-on-demand system according to claim 1 wherein said fourth means for partitioning and said fifth means for ~~sending~~ are implemented by a single set of instructions which direct said co-processor to partition and send any selected item from said transmission control list regardless of whether said selected item is one subgroup of internet protocol headers or one video data packet.

9. (Currently Amended) A video-on-demand system according to claim 1 wherein said fourth means further directs said co-processor to ~~for partitioning~~ - a) first partition ~~partitions~~ one subgroup of internet protocol headers from said transmission control list, b) then partition ~~partitions~~ the corresponding video data packet from said transmission control list, and c) continue ~~continues~~ the above sequence in a repetitive fashion.

10. (Currently Amended) A video-on-demand system according to claim 1 wherein said fourth means further directs said co-processor to -a) receive for partitioning -  
a) includes a pair of pointers from said supervisor processor that each point to a different transmission control list, and b) alternately use uses one pointer of said pair to select and partition said video data packets and said respective subgroups of internet protocol headers, and c) send a request to which concurrently, requesting said supervisor processor to update said one the other pointer of said pair after its use is completed.

11. (Currently Amended) A video-on-demand system according to claim 1 wherein said fourth means further directs said co-processor to partition for partitioning  
partitions each video data packet and its respective subgroup of internet protocol headers into a single piece of a first type, multiple pieces of a second type, and a single piece of a third type, where said single piece of said first type includes said respective subgroup of internet protocol headers plus an initial portion of said video data packet, each piece of said second type includes an intermediate portion of said video data packet, and said single piece of said third type includes a remaining portion of said video data packet plus a trailer.

12. (Original) A video-on-demand system according to claim 11 wherein said additional header, which is attached to each partitioned piece, is an asynchronous transfer mode header.

13. (Currently Amended) A video-on-demand system according to claim 1 wherein said fourth means further directs said co-processor to partition ~~for partitioning~~ partitions each video data packet and its respective subgroup of internet protocol headers into a single piece to which said additional header is attached.

14. (Original) A video-on-demand system according to claim 13 wherein said additional header, which is attached to each partitioned piece, is an ethernet header.